

)

SEQUENCE LISTING

<110> LAZDUNSKI, MICHEL LESAGE, FLORIAN ROMEY, GEORGES

<120> HUMAN TREK2, A STRETCH-AND ARACHIDONIC ACID-SENSITIVE K+ CHANNEL ACTIVATED BY INHALATIONAL ANESTHETICS AND RILUZOLE

<130> 1256-R-00

<140> 09/892,360

<141> 2001-06-27

<150> 60/214,559

<151> 2000-06-27

<160> 25

<170> PatentIn Ver. 2.1

<210> 1

<211> 1614

<212> DNA

<213> Homo sapiens

<220>

<221> CDS

<222> (1)..(1614)

<223> ORF of human TREK2 cDNA

<400> 1

atg ttt ttt ctc tac aca gac ttc ttt ctt tcc ttg gtg gcc gtt ccc 48
Met Phe Phe Leu Tyr Thr Asp Phe Phe Leu Ser Leu Val Ala Val Pro
1 5 10 15

gca gca gcg gtg tgc cag ccc aag agc gcc act aac ggg caa ccc 96
Ala Ala Ala Pro Val Cys Gln Pro Lys Ser Ala Thr Asn Gly Gln Pro
20 25 30

ccg gct ccg gct ccg act cca act ccg cgc ctg tcc att tcc tcc cga 144
Pro Ala Pro Ala Pro Thr Pro Thr Pro Arg Leu Ser Ile Ser Ser Arg
35 40 45

gcc aca gtg gta gcc agg atg gaa ggc acc tcc caa ggg ggc ttg cag 192
Ala Thr Val Val Ala Arg Met Glu Gly Thr Ser Gln Gly Gly Leu Gln
50 55 60

acc gtc atg aag tgg aag acg gtg gtt gcc atc ttt gtg gtt gtg gtg

Thr Val Met Lys Trp Lys Thr Val Val Ala Ile Phe Val Val Val Val

65

70

75

80

gtc tac ctt gtc act ggc ggt ctt gtc ttc cgg gca ttg gag cag ccc 288 Val Tyr Leu Val Thr Gly Gly Leu Val Phe Arg Ala Leu Glu Gln Pro

1

ttt g Phe G													336
ctg c Leu A													384
cag c Gln H													432
tct t Ser S 145													480
gct g Ala G													528
act c													576
cca o Pro I													624
atc t Ile I													672
caa g Gln V 225		_	_		_		_				_		720
ttg g Leu <i>H</i>													768
tac a													816
act o													864
ggc a Gly 1													912
ctt o Leu V 305	_			_		_	_	_	_	_		 _	960

										3							
			cgg Arg														1008
			cat His														1056
			cgg Arg 355														1104
			acc Thr														1152
			cac His														1200
-			ctg Leu														1248
			cgg Arg														1296
			ggg Gly 435														1344
			tcc Ser														1392
	_	Pro	gag Glu	Āsp	Val	Gln		Ile	Tyr	Lys	Thr	Phe	Arg	Asn	Tyr	Ser	1440
	_	_	gag Glu		_					_	_	_	_	_			1488
			tcc Ser														1536
			gag Glu 515														1584
			aac Asn				_	_	_								1614

<210> 2

<211> 538

<212> PRT

<213> Homo sapiens

<400> 2

Met Phe Phe Leu Tyr Thr Asp Phe Phe Leu Ser Leu Val Ala Val Pro 1 5 10 15

Ala Ala Pro Val Cys Gln Pro Lys Ser Ala Thr Asn Gly Gln Pro
20 25 30

Pro Ala Pro Ala Pro Thr Pro Thr Pro Arg Leu Ser Ile Ser Ser Arg
35 40 45

Ala Thr Val Val Ala Arg Met Glu Gly Thr Ser Gln Gly Gly Leu Gln 50 55 60

Thr Val Met Lys Trp Lys Thr Val Val Ala Ile Phe Val Val Val 65 70 75 80

Val Tyr Leu Val Thr Gly Gly Leu Val Phe Arg Ala Leu Glu Gln Pro 85 90 95

Phe Glu Ser Ser Gln Lys Asn Thr Ile Ala Leu Glu Lys Ala Glu Phe 100 105 110

Leu Arg Asp His Val Cys Val Ser Pro Gln Glu Leu Glu Thr Leu Ile 115 120 125

Gln His Ala Leu Asp Ala Asp Asn Ala Gly Val Ser Pro Ile Gly Asn 130 135 140

Ser Ser Asn Asn Ser Ser His Trp Asp Leu Gly Ser Ala Phe Phe 145 150 155 160

Ala Gly Thr Val Ile Thr Thr Ile Gly Tyr Gly Asn Ile Ala Pro Ser 165 170 175

Thr Glu Gly Gly Lys Ile Phe Cys Ile Leu Tyr Ala Ile Phe Gly Ile 180 185 190

Pro Leu Phe Gly Phe Leu Leu Ala Gly Ile Gly Asp Gln Leu Gly Thr
195 200 205

Ile Phe Gly Lys Ser Ile Ala Arg Val Glu Lys Val Phe Arg Lys Lys 210 215 220

Gln Val Ser Gln Thr Lys Ile Arg Val Ile Ser Thr Ile Leu Phe Ile 225 230 235 240

Leu Ala Gly Cys Ile Val Phe Val Thr Ile Pro Ala Val Ile Phe Lys
245 250 255

Tyr Ile Glu Gly Trp Thr Ala Leu Glu Ser Ile Tyr Phe Val Val Val 260 265 270

Thr Leu Thr Thr Val Gly Phe Gly Asp Phe Val Ala Gly Gly Asn Ala 275 280 285

Gly Ile Asn Tyr Arg Glu Trp Tyr Lys Pro Leu Val Trp Phe Trp Ile 290 295 300

Leu Val Gly Leu Ala Tyr Phe Ala Ala Val Leu Ser Met Ile Gly Asp 305 310 315 320

Trp Leu Arg Val Leu Ser Lys Lys Thr Lys Glu Glu Val Gly Glu Ile 325 330 335

Lys Ala His Ala Ala Glu Trp Lys Ala Asn Val Thr Ala Glu Phe Arg 340 345 350

Glu Thr Arg Arg Leu Ser Val Glu Ile His Asp Lys Leu Gln Arg 355 360 365

Ala Ala Thr Ile Arg Ser Met Glu Arg Arg Leu Gly Leu Asp Gln 370 375 380

Arg Ala His Ser Leu Asp Met Leu Ser Pro Glu Lys Arg Ser Val Phe 385 390 395 400

Ala Ala Leu Asp Thr Gly Arg Phe Lys Ala Ser Ser Gln Glu Ser Ile
405 410 415

Asn Asn Arg Pro Asn Asn Leu Arg Leu Lys Gly Pro Glu Gln Leu Asn 420 425 430

Lys His Gly Gln Gly Ala Ser Glu Asp Asn Ile Ile Asn Lys Phe Gly
435
440
445

Ser Thr Ser Arg Leu Thr Lys Arg Lys Asn Lys Asp Leu Lys Lys Thr 450 455 460

Leu Pro Glu Asp Val Gln Lys Ile Tyr Lys Thr Phe Arg Asn Tyr Ser 465 470 475 480

Leu Asp Glu Glu Lys Lys Glu Glu Glu Thr Glu Lys Met Cys Asn Ser 485 490 495

Asp Asn Ser Ser Thr Ala Met Leu Thr Asp Cys Ile Gln Gln His Ala 500 505 510

Glu Leu Glu Asn Gly Met Ile Pro Thr Asp Thr Lys Asp Arg Glu Pro 515 520 525

Glu Asn Asn Ser Leu Leu Glu Asp Arg Asn 530 535

<210> 3

<211> 27

<212> DNA

<213> Artificial Sequence

```
<220>
<223> Description of Artificial Sequence: Primer
<400> 3
                                                                    27
actgccgagg tcccagtggc tgctgtt
<210> 4
<211> 24
<212> DNA
<213> Artificial Sequence
<223> Description of Artificial Sequence: Primer
tctggctgct ctcaaagggc tgct
                                                                    24
<210> 5
<211> 21
<212> DNA
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: Primer
                                                                    21
gacgatccct gctgtcatct t
<210> 6
<211> 23
<212> DNA
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: Primer
<400> 6
                                                                    23
ttgcagctgt cctcagtaga tcg
<210> 7
<211> 22
<212> DNA
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: Primer
<400> 7
                                                                    22
tagaatcgag gtcgacggta tc
<210> 8
<211> 25
```

```
<212> DNA
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: Primer
<400> 8
                                                                    25
gatttaggtg acactataga atcga
<210> 9
<211> 19
<212> DNA
<213> Artificial Sequence
<223> Description of Artificial Sequence: Primer
<400> 9
cagccctttg agagcagcc
                                                                    19
<210> 10
<211> 21
<212> DNA
<213> Artificial Sequence
<223> Description of Artificial Sequence: Primer
<400> 10
aagatgacag cagggatcgt c
                                                                    21
<210> 11
<211> 22
<212> DNA
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: Primer
<400> 11
                                                                    22
gaggcccggc caggggatcc tg
<210> 12
<211> 20
<212> DNA
<213> Artificial Sequence
<223> Description of Artificial Sequence: Primer
<400> 12
                                                                    20
ctcagtgctc accaccatcg
```

```
<210> 13
<211> 22
<212> DNA
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: Primer
<400> 13
                                                                    22
gaggcccggc caggggatcc tg
<210> 14
<211> 20
<212> DNA
<213> Artificial Sequence
<223> Description of Artificial Sequence: Primer
<400> 14
                                                                    20
gatccacctg caacgtagtc
<210> 15
<211> 27
<212> DNA
<213> Artificial Sequence
<223> Description of Artificial Sequence: Primer
<400> 15
actgccgagg tcccagtggc tgctgtt
                                                                    27
<210> 16
<211> 20
<212> DNA
<213> Artificial Sequence
<223> Description of Artificial Sequence: Primer
<400> 16
tcaggctgcc agctggactg
                                                                    20
<210> 17
<211> 25
<212> DNA
<213> Artificial Sequence
<223> Description of Artificial Sequence: Primer
<400> 17
tagctgatct ccaactccag ccaag
                                                                    25
```

<210> 18

<211> 411

<212> PRT

<213> Mus musculus

<400> 18

Met Ala Ala Pro Asp Leu Leu Asp Pro Lys Ser Ala Ala Gln Asn Ser 1 5 10 15

Lys Pro Arg Leu Ser Phe Ser Thr Lys Pro Thr Val Leu Ala Ser Arg 20 25 30

Val Glu Ser Asp Thr Thr Ile Asn Val Met Lys Trp Lys Thr Val Ser
35 40 45

Thr Ile Phe Leu Val Val Val Leu Tyr Leu Ile Ile Gly Ala Thr Val
50 55 60

Phe Lys Ala Leu Glu Gln Pro His Glu Ile Ser Gln Arg Thr Thr Ile 65 70 75 80

Val Ile Gln Lys Gln Thr Phe Ile Ser Gln His Ser Cys Val Asn Ser 85 90 95

Thr Glu Leu Asp Glu Leu Ile Gln Gln Ile Val Ala Ala Ile Asn Ala 100 105 110

Gly Ile Ile Pro Leu Gly Asn Thr Ser Asn Gln Ile Ser His Trp Asp 115 120 125

Leu Gly Ser Ser Phe Phe Phe Ala Gly Thr Val Ile Thr Thr Ile Gly 130 135 140

Phe Gly Asn Ile Ser Pro Arg Thr Glu Gly Gly Lys Ile Phe Cys Ile 145 150 155 160

Ile Tyr Ala Leu Leu Gly Ile Pro Leu Phe Gly Phe Leu Leu Ala Gly 165 170 175

Val Gly Asp Gln Leu Gly Thr Ile Phe Gly Lys Gly Ile Ala Lys Val 180 185 190

Glu Asp Thr Phe Ile Lys Trp Asn Val Ser Gln Thr Lys Ile Arg Ile 195 200 205

Ile Ser Thr Ile Ile Phe Ile Leu Phe Gly Cys Val Leu Phe Val Ala 210 215 220

Leu Pro Ala Ile Ile Phe Lys His Ile Glu Gly Trp Ser Ala Leu Asp 225 230 235 240

Ala Ile Tyr Phe Val Val Ile Thr Leu Thr Thr Ile Gly Phe Gly Asp 245 250 255

Tyr Val Ala Gly Gly Ser Asp Ile Glu Tyr Leu Asp Phe Tyr Lys Pro 260 265 270 Val Val Trp Phe Trp Ile Leu Val Gly Leu Ala Tyr Phe Ala Ala Val 275 280 285

Leu Ser Met Ile Gly Asp Trp Leu Arg Val Ile Ser Lys Lys Thr Lys 290 295 300

Glu Glu Val Gly Glu Phe Arg Ala His Ala Ala Glu Trp Thr Ala Asn 305 310 315 320

Val Thr Ala Glu Phe Lys Glu Thr Arg Arg Arg Leu Ser Val Glu Ile 325 330 335

Tyr Asp Lys Phe Gln Arg Ala Thr Ser Ile Lys Arg Lys Leu Ser Ala 340 345 350

Glu Leu Ala Gly Asn His Asn Gln Glu Leu Thr Pro Cys Arg Arg Thr 355 360 365

Leu Ser Val Asn His Leu Thr Asn Glu Arg Asp Val Leu Pro Pro Leu 370 375 380

Leu Lys Thr Glu Ser Ile Tyr Leu Asn Gly Leu Thr Pro His Cys Ala 385 390 395 400

Gly Glu Glu Ile Ala Val Ile Glu Asn Ile Lys
405
410

<210> 19

<211> 398

<212> PRT

<213> Mus musculus

<400> 19

Met Arg Ser Thr Thr Leu Leu Ala Leu Leu Ala Leu Val Leu Leu Tyr 1 5 10 15

Leu Val Ser Gly Ala Leu Val Phe Gln Ala Leu Glu Gln Pro His Glu
20 25 30

Gln Gln Ala Gln Lys Lys Met Asp His Gly Arg Asp Gln Phe Leu Arg 35 40 45

Asp His Pro Cys Val Ser Gln Lys Ser Leu Glu Asp Phe Ile Lys Leu 50 55 60

Leu Val Glu Ala Leu Gly Gly Gly Ala Asn Pro Glu Thr Ser Trp Thr 65 70 75 80

Asn Ser Ser Asn His Ser Ser Ala Trp Asn Leu Gly Ser Ala Phe Phe 85 90 95

Phe Ser Gly Thr Ile Ile Thr Thr Ile Gly Tyr Gly Asn Ile Val Leu 100 105 110

His Thr Asp Ala Gly Arg Leu Phe Cys Ile Phe Tyr Ala Leu Val Gly 115 120 125

Ile Pro Leu Phe Gly Met Leu Leu Ala Gly Val Gly Asp Arg Leu Gly 130 135 140

Ser Ser Leu Arg Arg Gly Ile Gly His Ile Glu Ala Ile Phe Leu Lys 145 150 155 160

Trp His Val Pro Pro Gly Leu Val Arg Ser Leu Ser Ala Val Leu Phe 165 170 175

Leu Leu Ile Gly Cys Leu Leu Phe Val Leu Thr Pro Thr Phe Val Phe 180 185 190

Ser Tyr Met Glu Ser Trp Ser Lys Leu Glu Ala Ile Tyr Phe Val Ile 195 200 205

Val Thr Leu Thr Thr Val Gly Phe Gly Asp Tyr Val Pro Gly Asp Gly 210 215 220

Thr Gly Gln Asn Ser Pro Ala Tyr Gln Pro Leu Val Trp Phe Trp Ile 225 230 235 240

Leu Phe Gly Leu Ala Tyr Phe Ala Ser Val Leu Thr Thr Ile Gly Asn 245 250 255

Trp Leu Arg Ala Val Ser Arg Arg Thr Arg Ala Glu Met Gly Gly Leu 260 265 270

Thr Ala Gln Ala Ser Trp Thr Gly Thr Val Thr Ala Arg Val Thr 275 280 285

Gln Arg Thr Gly Pro Ser Ala Pro Pro Pro Glu Lys Glu Gln Pro Leu 290 295 300

Leu Pro Ser Ser Leu Pro Ala Pro Pro Ala Val Val Glu Pro Ala Gly 305 310 315 320

Arg Pro Gly Ser Pro Ala Pro Ala Glu Lys Val Glu Thr Pro Ser Pro 325 330 335

Pro Thr Ala Ser Ala Leu Asp Tyr Pro Ser Glu Asn Leu Ala Phe Ile 340 345 350

Asp Glu Ser Ser Asp Thr Gln Ser Glu Arg Gly Cys Ala Leu Pro Arg 355 360 365

Ala Pro Arg Gly Arg Arg Pro Asn Pro Ser Lys Lys Pro Ser Arg 370 375 380

Pro Arg Gly Pro Gly Arg Leu Arg Asp Lys Ala Val Pro Val 385 390 395

<210> 20

<211> 15

<212> DNA

<213> Homo sapiens

<400> 20 accctgactc	ctcag	15
<210> 21 <211> 15 <212> DNA <213> Homo	sapiens	
<400> 21 tccctttctt	tgcag	15
<210> 22 <211> 15 <212> DNA		
<213> Homo	sapiens	
<400> 22 catatttctc	accag	15
<210> 23 <211> 15 <212> DNA		
<213> Homo	sapiens	
<400> 23 ctttgctctt	cctag	15
<210 > 24 <211 > 15 <212 > DNA <213 > Homo	sapiens	
<400> 24	·	
tttggttgtt	ttcag	15
<210> 25 <211> 15 <212> DNA <213> Homo	sapiens	
<400> 25	gccag	15